Puget Sound Acquistion & Restoration Fund

Puget Sound Recovery Projects
Application Project Summary

TITLE:	SOUTHERN HOOD CANAL RIPARIAN ENHANCME	**NUMBER:**	09-1665R (Restoration)
		STATUS:	Preapplication
APPLICANT:	Mason Conservation Dist	**CONTACT:**	John Bolender (360) 427-9436 Ext 21

COSTS:

RCO	$329,044	100 %
Local	$0	0 %
Total	$329,044	100 %

SPONSOR MATCH:

DESCRIPTION:

Riparian habitiatis are tihe mosti fiundamential building block fior protiecting aquatic fireshwatier and marine ecosystiems and tihe species tihati depend on tihem. Virtiually all watiershed assessmentis and species recovery plans firom landscape tio reach tio watiershed scales call fior improving riparian habitiati quali/ty, quantitiy and reducing tiheir increasing firagmentiation

This projecti is tihe SOUTHERN HOOD CANAL RIPARIAN ENHANCMENT PROJECT tihe primary objectives are 09-1665

1. Improve tihe quantitiy and qualitiy ofi riparian areas
2. Move riparian areas tioward a latier seral stiage

The projecti seeks tio fiund one Washingtion Stiatie Conservation Corps (WCC) crew fior one year tio implementi tihe projecti scope. Additional privatie contiractiors may be hired tio perfiorm some ofi tihe tiasks where necessary. The tiasks ofi tihe projecti scope are 1) tiree planting, 2) sitie preparation and maintienance fior planting, 3) invasive, non-native vegetiation inventiory and contiroi, 4) instiream and estiuarine restioration such as hand placementi ofi woody debris and removal ofi in channel invasives, and 5) monitioring implementiation and efiectiveness

The primary objectives ofi tihis projecti are tio

- Move riparian areas tioward a latier seral stiage by planting native conifiers, shrub and hardwood species, where appropriatie
- Expand tihe quantitiy and improve tihe qualitiy ofi riparian bufiers

The second objective ofi tihis projecti will fiocus on planting and nurtiuring areas tihati are high priority for maintienance and noti qualified fior otiher programs

LOCATION INFORMATION:

COUNTY:

SALMON INFORMATION: (* indicates primary)

Species Targeted

Chinook

Chum

Habitat Factors Addressed

Biological Processes

Estuarine and Nearshore Habitat

Loss of Access to Spawning and Rearing Habitat

Riparian Conditions

LAST UPDATED:	June 23, 2009	**DATE PRINTED:**	June 25, 2009

Sample *Planting Plan for Regional Riparian Successional Strategy Implementation*

Scope

This document provides an example of a site specific planting plan that would be typical of the types of sites planted with the RRSS. This example was developed for a Estuary planting project but the general concepts of how it was developed and written would be the same for the type of riparian plantings done with the RRSS.

Planting Areas

West Unit

The West Planting Unit is approximately 2.9 acres and includes the area where the new road access and parking lot will be located. According to the design this parking and road footprint will be approximately 0.4 acres, this leaves around 2.5 acres that will be replanted with native Marine Riparian Vegetation. This unit is an open planting and will be site prepped and planted accordingly.

Current Conditions

The west unit is dominated by herbaceous species including grasses and thistle. There is also a strong population of Scotch broom with Himalayan and evergreen blackberries on the peripheries of the unit. The majority of the unit has been mowed in an effort to contain the weedy species. Additionally there is a few remnant orchard trees and on the southern end of the unit, a small stand of Douglas Fir, Pacific Madrone, Nootka Rose and Tall Oregon Grape.

Site Prep

Tractor mowing of the planting area should take place in late August. Tractor mowing as much of the site that is accessible by tractor with a brush hog. This will clear away most of the competing vegetation. Additional clearing with a brushcutter for each plant should also be done. Clear a three foot circle to a stubble height of 1” or less to create a planting spot.

Scotch Broom and Blackberry Control

Intensive effort will be required to control scotch broom and blackberry on this site. For the best results a combination of mechanical and chemical control should be used. Herbicide use should be used with methods such as cut stump, wiping or spot spraying to increase efficacy while minimizing quantities utilized on site. Other control methods that could be used is cardboard mulch with additional wood mulching on top of cardboard to help suppress areas with heavy infestations of blackberries or other undesirables.

Planting Stock

Planting should be done using one or three gallon potted stock and should occur in late November or early December. If potted stock cannot be installed due to budget constraints, bare root stock may be used and should be planted as soon as that stock is available (Jan.-Feb).

Spacing

Spacing should vary to approximate natural variation. Tree and shrub species should be well mixed with a spacing of about 8' X 8' with shrubs interspersed, except in areas of heavy blackberries where density should be higher. There should be approximately 681 trees per acre planted so for the West Planting Unit there should be about 2043 plants installed. In areas with heavy blackberries, increasing the planting a density to 4'X4' is recommended.

Species Selection

Species where chosen based on site conditions, NRCS Soils forest productivity (attached), field observations of species growing on site, consultation of local native plant lists and restoration plant guide by the WA Native Plant Society. Species chosen for planting for this unit are:

Latin	Common	PERCENT Cover	PLANTS/ Acre	TOTAL Plants
Arbutus menziesii	Pacific madrone	5%	34	102
Rosa nutkana	Nootka rose	5%	34	102
Rubus spectabilis	Salmonberry	10%	68	204
Pseudotsuga menziesii	Douglas Fir	25%	170	511
Pinus contorta	shore pine	10%	68	204
Mahonia aquifolium	Tall Oregon Grape	10%	68	204
Gaultheria shallon	Salal	6%	41	123
Prunus emarginata	Bitter Cherry	1%	7	20
Acer macrophyllum	Big-leaf maple	25%	170	511
Amelanchier alnifolia	Serviceberry	3%	20	61
		100%		2043
	3	**acres**		
	681	**plants/acre**		
	2043	**Total Plants**		

**Assumes 100% cover with 8'x8' spacing (681 stems per acre)*

Mulching

All plants shall be mulched with aged wood chips (hog fuel or other coarse woody material). Mulch should be 1-2" deep and extend out in a circle around the plant for at least 12". The mulch will help retain soil moisture from supplemental irrigation and help suppress competing vegetation around the tree. Mulch should be installed as quickly as possible after planting is completed.

North Unit

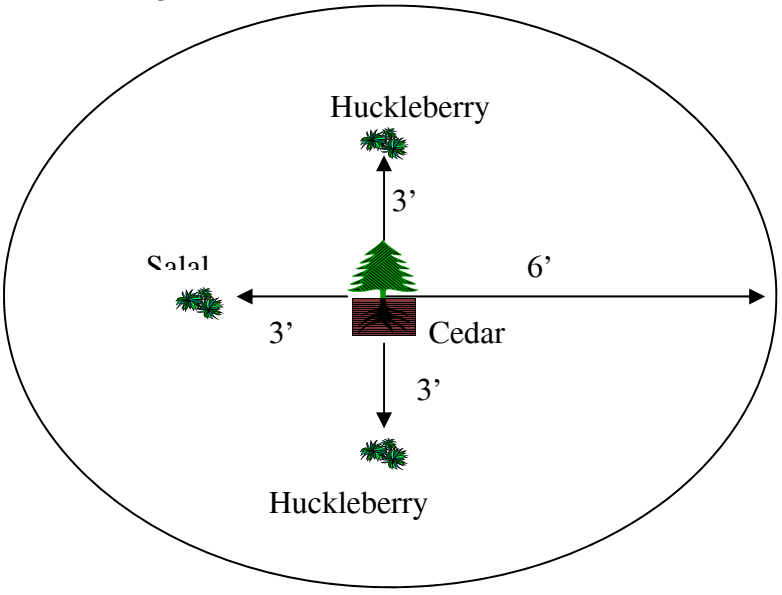
Current Conditions

The North Site is dominated by Everett gravelly loamy sand and Indianola loamy sand. This North Site is a thin strip of land approximately 5 acres in size that is constrained on the North by the North Shore Road and the South by soon to be resorted Tidal Marsh. It is unknown how much the restoration project will affect the upland vegetation; however some assumptions can be drawn based on the studies conducted for the site. While the restoration will change the current landscape, it is a fair assumption to assume the existing marine Riparian areas will not be altered to a large degree. Therefore, this plan will outline the actions to be taken in this area based on the above assumption.

Currently this area is dominated by small to medium sized Alders with an understory comprised of Salmonberry, Evergreen Huckleberry and Salal. In some small patches there are some medium to small sized Western red Cedar and Douglas Firs. The unit is an underplanting and will be site prepped and planted accordingly. This will help move this site toward a later successional state and to increase its diversity.

Site Prep and Planting Methods

Suitable planting areas need to be scouted out and marked. A suitable site is one that has a partial opening, humps or higher ground suitable for planting a cedar tree and three shrubs. Each suitable site needs to be cleared of all competing vegetation in 6' circle. Within the center of each cleared planting site one Cedar, two Evergreen Huckleberries and one Salal will be planted as depicted in the diagram below.



Planting Sock

Planting should be done using one or three gallon potted stock and should occur in late November or early December. If potted stock cannot be installed due to budget constraints, bare root stock may be used and should be planted as soon as that stock is available (Jan.-Feb).

Spacing

Suitable planting spots within the area need to be scouted out and marked with flagging prior to the crew arriving to conduct the clearing. A suitable site is one that has a partial opening, humps or higher ground suitable for planting a conifer such as Western Red Cedar, Western Hemlock or Grand Fir. Each suitable site needs to be cleared of competing vegetation in 6' circle. This will be performed using chainsaws, brush cutters, weed wrenches, or hand cutting. In the center of that clearing, the chosen conifer should be planted. If it has been determined that shrubs species are appropriate (in order to increase species diversity, ground cover, soil stability, etc.), these should be planted about three feet away from the conifer, and still well within the 6' circle. This area has already been scouted and it was determined that approximately 100 cedars would be able to fit into this unit.

Species Selection

Species where chosen based on site conditions, forest productivity soil report (attached), field observations of species growing on site, consultation of local native plant lists and the restoration plant guide by the WA Native Plant Society. Species for the north unit are:

Latin Name	Common Name	Quantity
Vaccinium ovatum	Evergreen Huckleberry	200
Thuja plicata	Western Red Cedar	100
Gaultheria shallon	Salal	100

Plant Protectors

All plants should have a plant protector installed around the plant. These protectors shall be made of a perforated sturdy plastic material, not to exceed 12" in height. The protector bottom should be buried into the soil no less than 1" to prevent rodents from getting under the protector. The protector shall be solidly secured to a 1"X2"X24" wooden stake by means of staples or zip ties. The stake shall be securely pounded in the ground at least 12".

Maintenance

Maintenance will need to be performed for the first few growing season after the site is planted. Maintenance will consist of clearing away any competing vegetation around the plants in a 24" circle. This can be accomplished by utilizing a brush cutter or other means as long as the plant is not damaged and there is minimal disturbance to the mulch. Pulling of scotch broom re-sprouts and spot spraying or cut stumping of blackberries should also occur. Any herbicide applied should not drift onto trees or shrubs.

Watering of the plants for the first two planting seasons should also occur, especially on the West Site. This is due to the fact of the exposure to the sun and the very coarse soil. The timing

and quantity of watering cannot be specified as it will depend on the weather. Watering through the dry summer months July, August and September will be critical the first year and highly important the second year to seedling survival. Finding an adequate source for irrigation water will be problematic. There are several private residences that have wells, but during summer these wells have very low flow. There is no source of water on the property. It may be necessary to utilize a large capacity water tank mounted on a truck to provide water to the planting site.

Timeline of Activities

Summer 2009

- Construction Levee removal
- Site Prep
    - Mowing
    - Removal and cut stump herbicide treatment of blackberries and large Scotch Broom
    - Flagging and clearing of the planting spots on the North Site

Fall/Winter 2009

- Planting
- Mulching
- Tree Protector installation

Spring/Summer 2010

- Maintenance
    - Mowing
    - Brushcutting
    - Scotch Broom Control
    - Blackberry control
    - Thistle Control?
    - July-Oct. 15th Supplemental Irrigation as needed
    - Monitor for seedling mortality

- Collect survival data for monitoring

Fall 2010

- Maintenance (same as above)
- Replace any seedlings that died

Spring/Summer 2011

- Maintenance (same as above)

Fall 2011

- Maintenance (same as above)